



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/550,529	07/12/2006	Jun Hirano	L8638.05108	4475

52989 7590 04/13/2009

Dickinson Wright PLLC  
James E. Ledbetter, Esq.  
International Square  
1875 Eye Street, N.W., Suite 1200  
Washington, DC 20006

EXAMINER

OBAYANJU, OMONIYI

ART UNIT

PAPER NUMBER

2617

MAIL DATE

DELIVERY MODE

04/13/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.





## **DETAILED ACTION**

### ***Response to Arguments***

Applicant's arguments with respect to claims 32-49 have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Rejections - 35 USC § 112***

**Claims 32-49** are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Regarding independent claims 32 and 41, applicant recites one or more “first and second time slot” which were not mentioned or clearly described in the specification. However, applicant mentioned different time slots in the system, but applicant did not specifically or clearly mentioned a first time slot for given radio communication devices and a second time slot for other communication devices.

Same rejection is applied to the dependent claims of 32 and 41 as discussed above.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 32-49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haartsen (US Publication No. 20020126692) in view of Montano (US Patent No. 7280518).

As to **claims 32 and 41**, Haartsen teaches a radio communication method for a radio communication system, the radio communication system being composed of a plurality of radio communication devices (abs) in such a manner that radio communication devices other than a given radio communication device exist within a communication area of the given radio communication device (pg. 2, pp0017, lines 1-10), and a time slot setting step of setting a first time slot which is different (pg. 2, pp0015, lines 4-7) from a second time slot as a time slot which can be used at higher priority by the given radio communication device in order to manage an accommodated radio communication terminal, the second time slot being a time slot which can be used at higher priority by one of the other radio communication devices (pg. 2, pp0017, lines 16-18). However, Haartsen fails to teach each of the plurality of radio communication devices being able to accommodate and manage a radio communication terminal, and the radio communication method being performed by the given radio communication

Art Unit: 2617

device, comprising: a detection step of detecting existence of other radio communication devices within the communication area of the given radio communication device; a time slot division step of dividing a communication period on a wireless medium into a plurality of time slots based on a number of other radio communication devices detected.

But Montano teaches each of the plurality of radio communication devices being able to accommodate and manage a radio communication terminal (each non-coordinating devices performing the coordinator function, col. 2, lines 50-55), and the radio communication method being performed by the given (coordinator) radio communication device, comprising (fig. 1, and col. 3, lines 10-40): a detection step of detecting existence of other radio communication devices within the communication area of the given radio communication device (fig. 3, #350, and col. 2, lines 65-67); a time slot division step of dividing (shared) a communication period on a wireless medium into a plurality of time slots based on a number of other radio communication devices detected (col. 16, lines 1-5). Thus it would have been obvious to one of ordinary skill in the art at time the invention was made to combine the teachings of Haartsen with the teachings of Montano to achieve the goal of accurately managing the transmission of data in a communication system to prevent or avoid signal or data collision in the channel and to carrying out desired communication between a controlling device and non-controlling devices.

As to **claims 33 and 42**, Haartsen teaches comprising a contention resolution (pg. 6, pp0052, lines 1-5) step of performing contention resolution processing when the first time slot and the second time slot overlap each other (pg. 4, pp0042, lines 1-4).

As to **claims 34 and 43**, Haartsen teaches wherein, in the contention resolution step, the given radio communication device exchanges identification information with the radio communication device which can use the second time slot at higher priority (pg. 2, pp0015, lines 1-7), and wherein the given radio communication device determines whether or not setting of time slots (reserved) should be changed based on a comparison result of the identification information of the given (master) radio communication device with the identification information of the radio communication device (slave) which can use the second time slot at higher priority (pg. 2, pp0017, and pp0048, lines 1-10).

As to **claims 35 and 44**, Haartsen teaches comprising a time slot identification information (slotted channel) sending step of sending identification information of the first time slot to one of the other radio communication devices (pg. 2, pp0018, lines 5-13), so that one of the other radio communication devices can select the second time slot based on the identification information of the first time slot (pg. 2, pp0018, lines 13-17).

As to **claims 36, 37, 45, and 46**, Haartsen teaches comprising a priority communication step of accessing the wireless medium in the first time slot, using a waiting time shorter and longer than those for the other radio communication devices (pg. 6, pp0049, lines 1-14).

As to **claims 38 and 47**, Haartsen teaches the limitations of claim 32 as discussed above. However, Haartsen fails to teach wherein in the time slot division step, the given radio communication device divides the communication period evenly into the plurality of time slots, the communication period having a common length of a common period which is determined among the radio communication devices.

But, Montano teaches wherein in the time slot division step, the given radio communication device divides the communication period evenly (fig. 9, #940) into the plurality of time slots (col. 14, lines 45-55), the communication period having a common length of a common period which is determined among the radio communication devices (col. 15, lines 1-10). Thus it would have been obvious to one of ordinary skill in the art at time the invention was made to combine the teachings of Haartsen with the teachings of Montano to achieve the goal of accurately managing the transmission channel of a communication system to prevent or avoid signal collision in the channel.

As to **claims 39 and 48**, Haartsen teaches the limitations of claim 38 as discussed above. However, Haartsen fails to teach comprising a synchronization step of synchronizing with the other radio (non-coordinating) communication devices regarding the common period (col. 7, lines 52-55). Thus it would have been obvious to one of ordinary skill in the art at time the invention was made to combine the teachings of Haartsen with the teachings of Montano to adequately and efficiently sync wireless terminals over an allocated time in a communication system.

As to **claims 40 and 49**, Haartsen teaches comprising a time slot resetting (assigning) step of, when it is detected that the radio communication device which can



Art Unit: 2617

use the second time slot at higher priority shuts down, resetting (assigning) the plurality of time slots so that the second time slot can be used by the radio communication devices (pg. 5, pp0042, lines 13-15).

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to OMONIYI A. OBAYANJU whose telephone number is (571)270-5885. The examiner can normally be reached on Mon - Fri, 7:30 - 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vincent P. Harper can be reached on 571-272-7605. The fax phone

Art Unit: 2617

number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/O. A. O./  
Examiner, Art Unit 2617

/VINCENT P. HARPER/  
Supervisory Patent  
Examiner, Art Unit 2617